

PA



County of Los Angeles CHIEF EXECUTIVE OFFICE

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WILLIAM T FUJIOKA
Chief Executive Officer

February 4, 2008

To: Supervisor Yvonne B. Burke, Chair
Supervisor Gloria Molina
Supervisor Zev Yaroslavsky
Supervisor Don Knabe
Supervisor Michael D. Antonovich

From: William T Fujioka
Chief Executive Officer

Fire Chief P. Michael Freeman

Bruce W. McClendon
Director of Regional Planning

Donald L. Wolfe
Director of Public Works

Board of Supervisors
GLORIA MOLINA
First District

YVONNE B. BURKE
Second District

ZEV YAROSLAVSKY
Third District

DON KNABE
Fourth District

MICHAEL D. ANTONOVICH
Fifth District

REPORT REGARDING STRENGTHENING ELECTRICAL POWER LINES AND POLES SUSCEPTIBLE TO FAILURE DUE TO HIGH WINDS AND THE EFFECTIVENESS OF CURRENT WILDFIRE SAFETY REGULATIONS TO PREVENT AND WITHSTAND THE SPREAD OF WILDLAND FIRES (ITEM NO. 49-A, AGENDA OF OCTOBER 30, 2007)

On October 30, 2007, your Board directed the Chief Executive Officer, the Directors of Public Works and Regional Planning, the Fire Chief, and County Counsel to: (1) work with Southern California Edison (SCE) to investigate the cause of downed power lines in the Canyon and Corral Fires, recommend measures to strengthen these power lines and poles in high wind areas and identify potential funding to advance the undergrounding of utility lines in high fire hazard areas; (2) convene appropriate staff, including departmental representatives who formerly served on the County's Wildfire Safety Panel, to examine the causes of structures lost in the 2007 wildfires to determine the effectiveness of the County's wildfire safety regulations; and (3) report back to your Board in 90 days with recommendations to further enhance our ability to prevent and withstand the spread of wildland fires.

RECOMMENDATIONS

1. Power Lines/Poles

As there are a number of ongoing investigations involving measures to strengthen power poles and lines, we recommend that your Board: (1) invite the California Public Utilities Commission (CPUC) to speak on their findings related to the Canyon and Corral Fires; (2) request the CPUC to review and revise, if necessary, the rules for Overhead Electric Line Construction (General Order 95); and (3) participate in an open forum with other counties, utility companies, and key stakeholders to discuss the potential need for new rules or rule changes regarding the management of overhead lines and poles.

2. County Wildfire Safety Requirements

After review of the current County wildfire safety regulations, the 1994 Report from the Wildfire Safety Panel and post-fire inspection reports on property losses from the Canyon and Corral Fires, we are recommending no further enhancements be made to the building standards in the current 2008 County Building (Title 26) and Fire (Title 32) Codes. However, it is recommended that your Board:

- Direct the Fire Department to require existing substandard access roads be improved, upon application for new construction or reconstruction, where practical, in order to improve emergency vehicle access;
- Direct the Fire Department and Regional Planning to develop standards to address aspect, fuels, and proximity to hazardous topography, and develop tools to analyze the various hazards that contribute to wildfire severity so that the safest development locations can be identified; and
- Direct the Fire Department and Regional Planning to identify potential locations for emergency fire shelters in areas prone to wildfires.
- Direct Regional Planning to investigate the feasibility of creating a Wildland Urban Interface Regulatory Overlay District, which would include all lands within the Very High Fire Hazard Severity Zone. This overlay will provide Regional Planning the ability to collaborate with the Fire Department to determine appropriate Regional Planning actions and proportional levels of firefighting services required to further protect lives and property within the overlay district.

POWERLINES

Investigation of Cause of Downed Power Lines

The result of the investigation by County Fire indicates two power poles (owned and operated by SCE) along Malibu Canyon Drive toppled, causing the attached energized wires to arc over an area of brush starting the fire. The fire spread rapidly due to a strong Santa Ana wind event.

In response to the County's inquiries, SCE has provided a letter (Attachment I) stating their power line and pole installations meet or exceed the minimum standards for overhead electric line construction required by State Law (State of California General Order 95) as prescribed by the CPUC.

SCE continues to work with Cal Fire and the County to investigate the cause of the downed power lines and/or poles. SCE acknowledges that, should they determine the cause of the fire could have been prevented through reasonable and practical changes in design standards, they will immediately consider implementation of such changes.

The CPUC confirmed their role as the regulatory body that prescribes the rules and regulations (including the design standards for power poles and power lines) for utility companies such as SCE. The CPUC is currently investigating each of the Southland October Fires to determine if any measures could have been implemented to avoid power pole/line failures, and their legal and utility safety experts will prepare a response to the County regarding their investigative findings. As this is an issue of mutual concern, the CPUC is also willing to appear before your Board to discuss possible recommendations and solutions that could reduce the likelihood of fires being caused by downed power lines and/or poles due to high winds.

Following the recent fires in San Diego County, San Diego Gas and Electric (SDG&E) filed a petition with the CPUC to establish a rulemaking regarding disaster preparedness and management of overhead lines. This petition seeks a forum in which key stakeholders can discuss the potential need for new rules or rule changes related to disaster avoidance. In the filing, SDG&E suggests the Order Instituting Rulemaking include several areas of inquiry including:

- **Facilities:** Discuss design changes and potential funding for undergrounding rural power lines, shortening power line spans, replacing wood poles with steel poles, etc.

- Land Use in Rural Areas: Discuss allowable vegetation types and minimum widths of rights-of-way in wildfire-prone areas.

SCE shares with SDG&E the same concerns in their service territory and has, therefore, filed a response with the CPUC in support of SDG&E's petition. SCE believes a new uniform statewide policy regarding the construction and maintenance of utility lines and rights-of-way and disaster management related to these lines is the most effective means to improve public safety while maintaining reliable, affordable electric service.

Funding for Undergrounding of Utility Lines

Undergrounding overhead utilities is very costly and difficult to determine due to varying site circumstances. SCE estimates the cost for undergrounding their distribution power lines in flat urban areas to be approximately \$1.5 - \$2.5 million per mile and up to \$4 million per mile in rural/mountainous areas, assuming favorable terrain. In rougher terrain, these costs will escalate considerably. Additionally, these costs only reflect SCE costs and not the costs of undergrounding other utilities (such as phone and cable) at the same time. Attachment II is a matrix outlining the qualifying criteria for Rule 20 projects and those parties responsible for corresponding costs.

COUNTY WILDLIFE SAFETY REQUIREMENTS

County Agency Roles and Responsibilities for Development in Wildfire Areas

The three primary County agencies that develop and enforce wildfire regulations, Public Works, Fire, and Regional Planning, each focus on different yet overlapping areas of responsibility. Public Works and Fire are concerned with the development and enforcement of the County Building and Fire codes detailing minimum standards for construction materials and methods, access for emergency vehicles, and water supply for fire fighting. In addition, Fire also administers standards for fuel modification and brush clearance. Fuel Modification is a plan to create defensible space around homes built in wildfire-prone areas and brush clearance is the requirement to remove any hazardous vegetation from around structures. Regional Planning regulates the siting, size, and permitted use of structures.

1994 Wildfire Safety Panel

After the firestorms of 1993, your Board ordered the establishment of the Wildfire Safety Panel to analyze and make recommendations to reduce the hazardous wildfire conditions that exist in the wildland/urban interface zone. The panel spent countless hours conducting a comprehensive analysis of all the factors that contributed to the

devastating loss in 1993. The final Wildfire Safety Panel Report dated June 17, 1994, contained 39 recommendations, some resulting in changes to the Los Angeles County Building and Fire Codes. In response to your Board's October 30, 2007 direction, each of these recommendations was reviewed by appropriate personnel from each of the Departments to determine their effectiveness during the 2007 fires.

Building Standards

Specific restrictions related to construction within Fire Zone 4 (designated highfire hazard area) were first published in 1971 as Chapter 16 of the County Building Code. On January 7, 1996, as a result of the Wildfire Safety Panel Report, the following requirements (Table 1) related to the construction of buildings and accessory structures in Very High Fire Hazard Severity Zones were added to Chapter 64 of the Building Code. These regulations and guidelines were reviewed for their collective and individual effectiveness in resisting the spread of flames, intrusion of embers, and otherwise minimizing property loss in the recent Corral and Canyon Fires. Post-fire inspections and surveys of the burned areas were conducted to investigate the causes and determine the types and locations of damaged structures. Records were also compiled detailing the date of construction for each of the damaged structures.

Table 1 - 1996 through 2002 Building and Fire Code Requirements for Construction in Very High Hazard Fire Severity Zones

- Roof covering is required to be Class A rated, and the use of wood shake and shingle roofing is prohibited. (Recommendation 23)
- Exterior walls are required to be of materials approved for one-hour fire-restrictive construction on the exterior side. (Recommendation 24)
- Eaves, fascias, and other appendages are required to be one-hour fire-resistive construction (boxed), heavy timber, or of noncombustible materials. (Recommendation 24)
- Exterior windows and glazing in exterior doors are required to have multiple-glazed panels, minimum dual-pane glazing. (Recommendation 25)
- Exterior doors, other than vehicle access doors, are required to be solid-core, minimum 1-3/8 inches thick. (Recommendation 25)

- Accessory structures attached to residential buildings, or less than 20 feet from habitable structures are required to be one-hour fire-resistive construction, heavy timber, or of noncombustible materials. (Recommendation 26)
- Projections over descending slopes are required to be enclosed to within 6 inches of the ground or protected on the underside by one-hour fire-resistive construction. (Recommendation 26)
- Swimming pools in excess of 5,000 gallons are required to be provided with a 4-inch drain and discharge line connected to a draft hydrant for use as an auxiliary water supply for the Fire Department. (Recommendation 28)
- Openings into attics, under-floor, and other enclosed areas cannot exceed 144 square inches, and are required to be covered with corrosion-resistant wire mesh with mesh openings of ¼ inch. (Recommendation 30)
- Under-floor areas must be enclosed to the ground with materials as required for exterior walls, or the underside and all structural members and walls protected as required for exterior one-hour fire-restrictive construction. (Recommendation 30)
- Alterations, additions, and repairs to existing structures and buildings moved into Very High Fire Hazard Severity Zones are required to comply with new construction requirements. (Recommendation 3)
- An automatic fire sprinkler system shall be installed in all occupancies located in the Very High Fire Hazard Severity Zone which is newly constructed or which is modified, reconstructed, or remodeled by adding 50 percent or more square footage. (Recommendation 27)

Your Board should be confident that the changes made in 1996 to the building standards for construction in the Very High Fire Hazard Severity Zones are effective in preventing structure loss and the spread of wildfires. The survivability of these structures is attributable in part to the materials of construction and to their defensible space. Flying embers either entering the structure or landing on a combustible surface attached to or adjacent to the structure contributed, in part, to most of the 2007 losses. This condition has been addressed in the adoption of the 2008 County Building and Fire Codes.

On November 27, 2007, your Board adopted the 2008 County of Los Angeles Building and Fire Codes, which became effective January 1, 2008. As required by State law, the basis for these codes was the 2007 State of California Building Codes. As a result, the County replaced existing Chapter 64 with newly-created Chapter 7A, Materials and Construction Methods for Exterior Wildfire Exposure, of the California Building Code. The chapter was developed by the State Fire Marshal and contains building performance test standards for evaluating construction assemblies with respect to protection from the intrusion of flames and embers. As of January 1, 2008, the County Building Code, Chapter 7A and the County Fire Code (Table 2) encompass the most stringent requirements to date for construction in County wildfire areas.

Table 2 - 2008 Building Code Requirements for Materials and Construction Methods for Exterior Wildfire Exposure

- Amended the State Code to continue prohibiting the use of wood shake and wood shingle roof covering.
- Amended the State Code to apply the requirements of Chapter 7A to not only new construction, but also continue to include repairs, alterations, and additions to existing structures, and structures relocated into Very High Fire Severity Zone.
- Exterior walls required to be noncombustible or ignition-resistant material, heavy-timber or log wall construction, or meet SFM 12-7A-1.
- Eaves, soffits, fascias, and other appendages required to be of noncombustible materials or meet SFM 12-7A-3.
- Exterior windows and glazing in exterior doors required to minimum dual-pane glazing, with minimum of one pane to be tempered, have a fire-resistive rating of not less than 20 minutes, or meet SFM 12-7A-2.
- Accessory structures such as decks, balconies, patios, and surfaces attached to residential buildings or within 10 feet of the primary structure are required to be ignition resistant; or heavy timber, exterior fire-retardant wood, or of noncombustible materials; or pass prescribed fire-resistant performance requirements.
- The underside of appendages and floor projections are required to maintain the fire-resistant integrity of the exterior walls or be enclosed to grade.
- Eave vents are prohibited.

- Under-floor areas must be enclosed to the ground with materials as required for exterior walls, or the underside and all exposed floors and structural members and walls protected as required with exterior ignition-resistant material or be constructed of heavy timber.
- Roof gutters are to be designed to prevent the accumulation of leaves and debris.
- An automatic fire sprinkler system shall be installed in all occupancies located in the Very High Fire Hazard Severity Zone which is newly constructed or which is modified, reconstructed or remodeled by adding 50 percent or more square footage.

The recent code changes make the County Code more stringent than the State Building Code, and are more comprehensive than previous County Codes, enhancing proven effective measures and addressing the perceived weakness in the earlier requirements. The new performance criteria for evaluating alternative materials and assemblies allow builders more latitude in their design. Used in conjunction with Fuel-Modification Design, properties will have reasonable protection and a high probability of surviving a wildfire.

Fuel Modification/Brush Clearance

The other key component in effectively preventing structure loss during the recent fires was the creation of defensible spaces through the use of fuel modification and annual brush clearance. Our records indicate that all except one of the 64 residential structures lost in 2007 were built prior to the implementation of fuel modification requirements in 1996.

Results from the recent fires reemphasize the need for continued vigilance. Annual brush clearance inspections must be completed, and noncompliant parcels need to be notified and necessary clearance must be completed in a timely manner. Once ignited, even structures with acceptable clearance will threaten other nearby structures. Structure losses would have been much more significant if the Fire Department's brush clearance program had been neglected.

Fuel Modification plans also need periodic monitoring to ensure that the requirements of the original plan are being maintained. Fuel modification plans allow properly maintained native and ornamental vegetation to remain on-site. Particular attention to ornamental vegetation near structures is imperative, as lack of maintenance of these fuels can threaten the security of adjacent structures.

The 2008 Los Angeles County Fire Code requires a fuel modification plan, a landscape plan, and an irrigation plan for all new subdivisions of land, and prior to any new construction, remodel, or reconstruction which increases the square footage of the existing structure by 50 percent or more. At this time, the Fire Department believes the current threshold for requiring fuel modification plans, in conjunction with the existing brush clearance program, is appropriate and does not need further enhancement.

Access and Siting

Narrow streets in mountainous communities, such as the Malibu Bowl and El Nido communities restrict the ability of fire engines to turn around or to pass other engines engaged in firefighting operations. This hinders the rapid and effective deployment of equipment.

To provide adequate emergency vehicle access it is recommended that all new subdivisions located in the Very High Fire Hazard Severity Zone continue to be required to comply with current County standards regarding road width, slope, and materials of construction and second means of access. In addition, it is further recommended to require that existing substandard access roads be improved upon application for new construction or reconstruction, where practical.

Topography also plays a major role in how fast a wildfire spreads. Steep slopes are the greatest topographical influence on fire behavior. The County encourages residents not to site their homes at the top of slopes. The establishment of a required setback from slopes in excess of 50 percent has been partially implemented in the Santa Monica Mountains North Area Community Standards District (CSD). However, the CSD used the designation of significant ridgelines as the criterion for imposing a setback instead of slope. This recommendation should be modified and broadened to prevent new development in Very High Fire Hazard Severity Zones from being sited in the highest -risk locations by developing standards to address aspect, fuels, and proximity to hazardous topography, and developing tools to analyze the various hazards that contribute to wildfire severity so that the safest development locations can be identified.

Finally, the County should consider expanding the use of Fire Shelters. These emergency preparedness facilities ("shelter-in-place" fire shelters), permitted use in all land use categories, could be placed in locations that the Fire Department determines as suitable.

WTF:PMF:BWM
DLW:LS:os

Attachments (2)
c: Executive Officer, Board of Supervisors
County Counsel

ATTACHMENT I



SOUTHERN CALIFORNIA
EDISON®

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Wesley K. Tanaka
Public Affairs Director

January 15, 2008

Patrick DeChellis
Deputy Director
Los Angeles County
Department of Public Works
900 S. Fremont Avenue, 12th Floor
Alhambra, CA 91803

Dear Mr. DeChellis,

The following is in response to the motion passed by the Los Angeles County Board of Supervisors on October, 30 2007 in regard to the Malibu Fire which began on October 21, 2007. This response is specific to subsequent questions posed by the Department of Public Works pertaining to Southern California Edison (SCE) construction standards.

Q. What design standards does SCE utilize for its overhead distribution system?

A. SCE adheres to California State General Order 95 (Rules for Overhead Line Construction) in the construction of overhead distribution systems. SCE's design standards always meet or exceed the minimums required by State Law.

Q. Are there National Design Standards for power poles and lines that SCE is required to adhere to?

A. There are no "National Design Standards" for distribution power poles and lines. The National Electrical Safety Code (NESC) sets forth rules for "the practical safeguarding of persons during the installation, operation and maintenance of electric supply and communication lines and associated equipment", however, it is not intended as a design specification.

Unlike other Public Service or Public Utility Commissions throughout the United States, the California Public Utilities Commission (CPUC) has opted not to adopt the NESC, but instead sets forth "uniform requirements for overhead electrical line construction" in its General Order 95 to "insure adequate service and secure safety to persons engaged in the construction, maintenance, operation or use of overhead electrical lines and to the public in general".

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Typically, California's electric utilities craft their design standards for overhead electric lines in such a way as to ensure that all applicable General Order 95 requirements are met or surpassed and in so doing incorporate more stringent "internal" requirements which are founded on historical knowledge and certain good practices for local conditions or circumstances.

Q. Does SCE have design standards related to weather conditions? If so, when was the most recent revision to these standards? Was there an event that triggered this revision?

A. SCE does not have standards for different weather "conditions" but does use different design standard criteria for identified weather "zones" as noted in the question below.

Q. Are there different design standards for different weather zones?

A. SCE may use different design standards for different areas based on a variety of factors. For example, higher elevation areas will have a different design standard than lower elevation areas. This is primarily focused on the use of hardware to increase equipment stability due to expansion/contraction cold weather related issues and other factors such as ice loading on conductors. This could be referred to as "heavy" loading areas versus "light" loading areas. Another example could be different criteria for sizing transformers based on sustained high heat areas versus moderate temperature areas. A third example could be the use of different design criteria for pole strength based on extreme sustained wind areas versus light wind areas.

The construction standards contain a contamination map based on weather zones to determine the type of insulator to be used. The map specifies three distinct areas to identify each level of contamination (salt, dust, minimal) and to determine the insulator size to protect against electrical flash over to poles and equipment. These standards were last updated in 2003 to include a new type of polymer insulator to replace porcelain.

The distribution design standards ensure that poles must be capable of supporting horizontal loads caused by wind loading on the pole itself, plus the wind on the conductors supported by the pole, plus dead loads caused by the equipment. These

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standards were last updated in the 2nd quarter of 2002 to include the 6 pound and new 18 pound wind load design criteria.

The design standards for determining the number of dwellings that can be served by a transformer for a given climate zone were updated in April, 2004. These standards were revised to reflect the increase in residential dwelling sizes and air conditioning sizes in new developments.

Q. Does SCE have an ongoing pole/line replacement program? Please describe the program and criteria.

A. Yes, SCE has an ongoing pole replacement program. Wood poles are inspected through 'Intrusive' inspections, 'Detailed' inspections and 'Patrols'. 'Intrusive' inspections involves drilling into the pole's interior, both above and below the ground line, in order to measure the extent of any internal decay which is typically undetectable with external observation only.

Poles with decay are prioritized for repair or replacement, as necessary, and in accordance with the strength requirement of General Order 95. SCE performs intrusive inspections, detailed inspections and patrols in accordance with the timeframes specified in General Order 165. Detailed inspections must be performed once every five years and intrusive inspections must be performed for the first time after a pole is 15 years old but before it is 25 years old. Subsequent intrusive inspections must be performed at a minimum of every 20 years thereafter. Patrols are a simple visual inspection and must be performed annually in urban areas and every other year in rural areas.

Q. What is SCE's line clearing policy and criteria?

A. SCE's policy is to trim or remove trees to provide for safety, reliability and compliance to governmental regulations as prescribed by the California Public Utilities Commission in General Order 95, Public Resource Codes 4292 and 4293, SCE's line clearing program also incorporates by reference the Power Line Fire Prevention Field Guide and Standard ANSI Z-133.1.

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SCE's line clearing program prescribes an annual visual inspection of all high voltage lines (2.4 kV to 33kV) and includes criterion for vegetation-to-line clearances at the time of trimming to be not less than 18 inches radially, plus a minimum of one year's growth (by species), plus any additional trimming needed to account for surrounding vegetation, conditions that might influence future growth and the normal sway or sag of electric lines. SCE's program specifies a 4 ft. clearance from vegetation for electric utility distribution lines located in the mountainous, forest-covered, brush-covered, or grass-covered lands, as required by Public Resource Code 4293. Additionally, each year SCE performs joint inspections in high fire hazard areas with many of the fire agencies in our service territory, including CDF and LA County Fire, prior to the red-flag and Santa Ana seasons.

To help ensure a clear understanding of SCE's construction standards as noted in these responses, I will also schedule a meeting with you and staff to address any questions that may arise which are specific to the board motion. I will schedule this meeting as quickly as possible. In the interim, please call me at (626) 302-1942 if you have any questions.

Very truly yours,

A handwritten signature in black ink, appearing to read "Wes Tanaka", written in a cursive style.

Wes Tanaka
Public Affairs Director

cc: Jim Sparks
Ken Swanson
Steve Dunn
Ron Ferree
Mel Stark

ATTACHMENT II

Southern California Edison

Rule 20 Underground Conversions

	Rule 20A	Rule 20B	Rule 20C
Qualifying Criteria	<p>Projects must provide a benefit to the general public by satisfying one or more of the following criteria:</p> <ol style="list-style-type: none"> 1) The location has an unusually heavy concentration of overhead facilities 2) The location is heavily traveled 3) The location qualifies as an arterial or major collector road in a local government's general plan. 4) The overhead equipment must be located within or pass thru a civic, recreational or scenic area. 	<p>If an area is not eligible for Rule 20A, Rule 20B allows SCE rate funds to subsidize an underground project. The subsidy includes an amount equal to the cost of an equivalent overhead system, plus the cost of removing the existing overhead system. The area to be undergrounded must include both sides of the street for at least one block or 600 feet, whichever is less.</p>	<p>If neither Rule 20A or 20B apply.</p>
Funding	SCE	SCE and Applicant	Applicant
Engineering	SCE	Applicant	Applicant
UG Civil	SCE	Applicant	Applicant
Electrical	SCE	Applicant	Applicant
Panel Conversions	<p>SCE</p> <p><i>Note: SCE will fund up to 100 feet of each customer's underground electric service lateral as well as modifications to the panel to accept underground service.</i></p>	<p>Applicant</p> <p><i>Note: Panel conversions and the installation of underground conduits on private property to accept underground service are the responsibility of the applicant or individual customer</i></p>	Applicant
Overhead Equivalent	N/A	Yes	N/A
Overhead Removal	SCE	SCE	Applicant
Joint Utilities	Joint Utility	Applicant	Applicant

Note: More detailed and prescriptive information regarding the criteria for Rule 20 conversions can be obtained from SCE's Rule 20 Tariff.

January 10, 2008

Internal Document

Rule 20 Underground Conversion

Utility vs Applicant Cost Responsibility Sample Project

Rule 20A		Rule 20B		Rule 20C	
Utility	Applicant	Utility	Applicant	Utility	Applicant
\$ 100,000	\$ -	\$ -	\$ 100,000	\$ -	\$ 100,000
550,000	-	-	550,000	-	550,000
250,000	-	-	250,000	-	250,000
50,000	-	-	50,000	-	50,000
-	-	100,000	(100,000)	-	-
50,000	-	50,000	-	-	50,000
\$ 1,000,000	\$ -	\$ 150,000	\$ 850,000	\$ -	\$ 1,000,000
Joint Utilities					
Telephone	\$ -	\$ -	\$ 750,000	\$ -	\$ 750,000
Cable TV	-	-	750,000	-	750,000
Total Joint Utilities	\$ -	\$ -	\$ 1,500,000	\$ -	\$ 1,500,000
Total Utility/Applicant	\$ -	\$ 150,000	\$ 2,350,000	\$ -	\$ 2,500,000
Total Project		\$2,500,000		\$2,500,000	

Note: 1. Values are for illustrative purposes only.
 2. Site specific project estimates are needed to determine actual cost responsibility for each project.
 3. Information regarding joint utility costs and pricing must be obtained by the applicant directly from each utility.